

## Anson, Robie

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**From:** Anson, Robie  
**Sent:** Wednesday, May 29, 2013 3:03 PM  
**To:** Ostenso, Nile A - DNR  
**Cc:** Pfeifer, David  
**Subject:** RE: Draft PMP Action plan - Pulliam

Hi Nile,

We have reviewed Pulliam's proposed PMP and drafted a response that you can share with the permittee:

Thank you for your quick response in providing a PMP framework for the Pulliam power plant mercury variance. Our comments, suggestions, and recommendations are provided below. To provide context to our input, EPA's expectation for all facilities operating under a variance from WQS is that each such facility will identify all aspects of its operations that contribute the pollutant or pollutants covered by the variance to the wastewater, evaluate each source and process for opportunities to improve the quality of the effluent, and implement all feasible actions to reduce the concentration/load of the variance pollutants in its discharge, unless a particular control measure is expected to itself be unattainable for one of the reasons in 131.10(g). In the case of Pulliam, we believe the focus of the proposed framework on identifying sources and reducing sources of mercury internal to Pulliam's processes that contribute mercury loads to the final effluent is appropriate. Comparing the waste stream mercury concentration to the source water mercury concentration for each respective waste stream is a workable approach to identifying mercury loads that within Pulliam's processes that may be amenable to reduction. Pulliam may prioritize control measures based on factors such as the magnitude of the contribution of a given source to the final effluent concentration and load, the extent to which a given source is amenable to control, the anticipated reduction in load/concentration in the effluent and the ease or difficulty of implementing a particular control measure. Pulliam may, and probably should, intersperse rounds of control measures with rounds of monitoring to quantify results and determine the next steps that will be most productive. The actual specifics of monitoring should be determined based on the data needs to support decision-making as part of the PMP. In general, variance holders should provide as much documentation of their efforts under the PMP as is necessary to demonstrate the facility's efforts to achieve the highest quality effluent attainable, understanding that the PMP efforts completed during the life of a variance will become a major consideration in the public notice of any proposed reissuance of the variance and in EPA's review of any proposed reissuance. The specific comments and recommendations below are intended to help Pulliam satisfy the PMP objectives described above. We would be happy to discuss these with you if you have any questions.

- Will Pulliam quantify the concentration of mercury in City of Green Bay water as part of the PMP?
- As stated above, since Pulliam has a variance from WQS, EPA's expectation is that during the course of the variance, Pulliam will take all feasible steps to reduce the concentration of mercury in its effluent that is attributable to actions by the facility, unless implementing a particular control is expected to itself be unattainable for one of the reasons in 131.10(g). Alternatively, it may be that control measures at certain points in the process have no discernible impact on either concentration or load due to treatment steps taken downstream. Please revise the following portion of the PMP to reflect this:

"If a plant process is identified to be adding mercury to the facility's wastewater treatment system at levels above the background levels of the original source water supply, then the facility will evaluate the impact of possible actions based on expected water quality improvements at Outfall 101. Additional considerations will include the likelihood of achieving expected results, ease of implementation and whether the source of the mercury is from the power plant or from the water supply."
- The number of samples needed should be based on the data necessary to support the PMP work and may depend upon the variability of the mercury Hg concentration in sampled water (boilers, coal handling, demineralizer, Fox River); the greater the variability, the more samples may be necessary to support any conclusions about a particular waste stream.
- On page 2 of the proposed PMP, Pulliam states: "If a wastewater stream is determined to be contributing mercury to the wastewater treatment facility above the background levels of the service water supply (Fox River), quarterly sampling will continue during the permit term...." Rather than compare each waste stream to the Fox River background Hg levels, the concentration of Hg in each waste stream should be compared to that in the source water for that process (e.g., demineralizer water Hg content should be compared to City of Green Bay water Hg content).

- When comparing pre-treatment wastewater to post-treatment wastewater, a larger number of samples would enable the facility to make stronger conclusions as to the effectiveness of its treatment system. Our point is that adhering to a pre-selected number of samples may save resources in the short term, but ultimately undercut Pulliam's ability to document the results of its PMP efforts and make the PMP report less useful to Pulliam, WDNR, EPA and the public and contribute to controversy and delay in any subsequent actions concerning mercury in Pulliam's effluent.
- We were confused by the entry in the table addressing storm drains. Please clarify how re-routing plant storm drains to a coal pile runoff storage basin will reduce Hg levels in the plant's discharge. (Our understanding is that all coal handling water was collected and sent through the wastewater treatment facility already.)
- We believe that Pulliam has discussed the fact that they were unable to find a source that could consistently provide sulfuric acid lower in Hg than 1 mg/l. The PMP suggests that they will consider switching to a formula with a maximum Hg level of 0.1 mg/l. Has Pulliam identified a source of higher-grade product? If not, they should remove this potential action or qualify it to state that they must first identify a supplier that can consistently provide higher-grade sulfuric acid.
- The PMP suggests that Pulliam will consider switching from a sodium hydroxide formula with a maximum Hg level of 0.5 mg/l to one with a maximum Hg level of 0.002 mg/l. The annual PMP reports provided say that this has already been done. Why is this action included among the potential ways in which to further reduce Hg in plant effluent?
- Past annual reports have suggested that additional process chemicals used at the facility may be Hg sources. If the process waters at Pulliam are shown to be net sources of Hg, it may make sense for the operators to take a closer look at each chemical used and to switch to higher-grade (lower Hg) chemistry if it is possible.
- It is not clear for how long the permittee plans to collect quarterly water samples at the boilers, coal handling, demineralizer, and cooling water waste streams. Please confirm that this will continue for 5 years or until a renewed permit is issued.
- It is not clear when the decision will be made as to whether a specific waste stream is "determined to be contributing mercury to the facility." Please clarify the number of samples necessary to make this decision. (Please see additional comment about levels exceeding input water vs. levels exceeding Fox River water.)
- Is it possible for Pulliam to account for approximate residence time when sampling wastewater entering the treatment facility and wastewater exiting the facility via sampling point 101? This would provide the most accurate portrayal of the system's effectiveness at removing mercury.

Please feel free to contact me with any questions or concerns.

Thank you,

Robie Anson  
US EPA Region 5  
Water Quality Branch WQ-16J  
77 W. Jackson Blvd.  
Chicago, IL 60604

[anson.robie@epa.gov](mailto:anson.robie@epa.gov)  
(312) 886-1502

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**From:** Ostenso, Nile A - DNR [mailto:Nile.Ostenso@Wisconsin.gov]  
**Sent:** Thursday, May 23, 2013 4:42 PM  
**To:** Anson, Robie  
**Subject:** FW: Draft PMP Action plan - Pulliam

Hi Robie,

Here is the Pulliam response.

Have a great weekend. We can talk next week.



Water Resources Engineer  
Wastewater Section  
Bureau of Water Quality Management  
Wisconsin Department of Natural Resources  
Box 7921, Madison WI 53707-7921

(☎) **phone:** (608) 266-9239

(☎) **fax:** (608) 267-2800

(✉) **e-mail:** [nile.ostenso@dnr.state.wi.us](mailto:nile.ostenso@dnr.state.wi.us)

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**From:** Metcalf, Mark W [<mailto:MWMetcalf@integrysgroup.com>]

**Sent:** Thursday, May 23, 2013 4:25 PM

**To:** Ostenso, Nile A - DNR

**Subject:** Draft PMP Action plan - Pulliam

Hi Nile,

As discussed on May 9<sup>th</sup>, attached is a draft PMP action plan for the J.P. Pulliam plant. Feel free to give me a call if you have questions or would like to discuss.

Mark

**Mark Metcalf**

**Environmental Consultant - Air & Water | Integrys Business Support, LLC**

920-433-1833 (Green Bay)

920-617-6046 (De Pere)

920-606-8432 *cell*

920-433-4916 *fax*

[mwmetcalf@integrysgroup.com](mailto:mwmetcalf@integrysgroup.com)

[www.integrysgroup.com](http://www.integrysgroup.com)

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